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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/991,739	11/26/2001	Akira Nishimoto	10612/4	5667

7590 05/13/2004

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EXAMINER

BOYD, JENNIFER A

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 05/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/991,739	Applicant(s) NISHIMOTO ET AL.	
	Examiner Jennifer A Boyd	Art Unit 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Response to Amendment

1. The Applicant's Amendments and Accompanying Remarks, filed March 1, 2004, have been entered and have been carefully considered. Claims 1 – 4 are pending. In view of Applicant's Arguments, the Examiner withdraws the previously set forth rejection as set forth in paragraph 4 of the Office Action dated December 1, 2003. However, despite this advance, the invention as currently claimed is unpatentable for reasons herein below.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

3. Claims 1- 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaibe et al. (US 6,046,119).

Kaibe et al. is directed to a heat-retaining, moisture permeable, waterproof fabric (Title).

As to claim 1, Kaibe teaches a composite fabric comprising an unprocessed fabric with highly moisture-absorbing and releasing, hygroscopically heat-generating organic fine particles immobilized on the unprocessed fabric surface with a moisture-permeable waterproof resin (Abstract and column 4, lines 10 – 15). Kaibe teaches that the moisture-permeable resin can comprise a polyurethane resin and be in the form of a film (column 3, lines 34 – 50). Kaibe notes that an additional resin layer can be formed on the moisture-permeable waterproof resin layer as an overcoating (column 3, lines 50 – 59) and Kaibe teaches that acceptable resins for the

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overcoating include polyurethane. Kaibe teaches that the additional resin layer also has a certain level of moisture-permeability (column 3, lines 50 – 57), therefore, the resin can be considered to be hydrophilic. The Examiner equates the unprocessed fabric to Applicant's "base fabric", the moisture-permeable waterproof resin layer to Applicant's "moisture-permeable resin layer" and the additional resin layer referred to as an overcoating to Applicant's "surface protective resin".

As to claims 2 and 3, it should be noted that the method of forming the acrylonitrile cross-linked polymer is not germane to the issue of patentability of the moisture-permeable waterproof fabric itself. Therefore, the limitation of "produced by introducing a crosslinking structure into an acrylonitrile polymer through hydrazine compound treatment" of claim 2 and the limitation of "produced by introducing a crosslinking structure by using, as a monomer, a compound having two or more polymerizable vinyl groups" have not been given patentable weight. Kaibe teaches that the highly moisture-absorbing and releasing, hygroscopically heat-generating organic fine particles are acrylic metal-modified particles containing a metal salt of a carboxyl group and having a crosslinked structure introduced by hydrazine treatment of an acrylic resin composed of at least 60% by weight, of acrylonitrile as a monomer, a nitrogen content increased by 1.0 to 15.0% by weight, at least 1.0 mmol/g, of remaining nitrile group being chemically converted to a metal salt of carboxyl group by hydrolysis (column 4, lines 60 – 67 and column 5, lines 1 – 5).

As to claim 1, Kaibe discloses the claimed invention except for that the moisture-permeable waterproof resin layer containing a hydrophilic urethane resin and high moisture-absorbing/releasing and heat-generating organic fine particles is the *outermost layer* and the

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additional resin layer referred to as "overcoating" is the layer *immediately adjacent* to the fabric. It would have been obvious to one having ordinary skill in the art at the time the invention was made to move the moisture-permeable waterproof resin layer containing a hydrophilic urethane resin and high moisture-absorbing/releasing and heat-generating organic fine particles to be the outermost layer and the additional resin layer referred to as the "overcoating" as the layer immediately adjacent to the fabric since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70. In the present invention, it would have been obvious to switch the positioning of the moisture-permeable waterproof resin layer and the additional resin layer referred to as the "overcoating" motivated by the desire to increase the moisture-absorbing/releasing and the heat-generating properties of the composition. *It should be noted that upon reversal of these two layers that the moisture-permeable waterproof resin layer is now Applicant's position of the "surface protective layer" and the additional resin layer referred to as an overcoating is now in Applicant's position of the "moisture-permeable resin layer".*

As to claim 1, Kaibe discloses the claimed invention except for "surface protective resin" is present in a dry mass of 0.5 to 10 g/m². It should be noted that the amount of surface protective resin is a result effective variable. For example, as the amount of surface protective resin changes, the moisture permeability of the layer changes. It would have been obvious to one having ordinary skill in the art at the time the invention was made to create a surface protective resin layer with a dry mass of 0.5 to 10 g/m² since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d

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272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have been motivated to optimize the amount of surface protective resin motivated by the desire to control the moisture-permeability of the composite.

As to claims 1 and 4, although Kaibe does not explicitly teach the claimed urethane resin with a coefficient of moisture absorption is 40% or more at 30C and 90% of relative humidity as required by claim 1 and the composite fabric has 3% RH or more of a humidity difference between the surface protective resin side of the fabric and the moisture-permeable resin layer side of the fabric as required by claim 4, it is reasonable to presume that urethane resin with a coefficient of moisture absorption is 40% or more at 30C and 90% of relative humidity as required by claim 1 and the composite fabric has 3% RH or more of a humidity difference between the surface protective resin side of the fabric and the moisture-permeable resin layer side of the fabric as required by claim 4 is inherent to Kaibe. Support for said presumption is found in the use of like materials (i.e. a composite comprising a hydrophilic urethane resin containing moisture absorbing/releasing and heat-generating particles, base fabric and a non-porous urethane film) which would result in the claimed property. The burden is upon the Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed property of urethane resin with a coefficient of moisture absorption is 40% or more at 30C and 90% of relative humidity as required by claim 1 and the composite fabric has 3% RH or more of a humidity difference between the surface protective resin side of the fabric and the moisture-permeable resin layer side of the fabric as required by claim 4 would obviously have been

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present once the Kaibe product is provided. Note *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977).

Response to Arguments

4. Applicant's arguments with respect to claims 1 – 4 have been considered but are moot in view of the new ground(s) of rejection.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A Boyd whose telephone number is 571-272-1473. The examiner can normally be reached on Monday thru Friday (8:30am - 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jennifer Boyd
May 6, 2004


Ula C. Ruddock
Primary Examiner
Tech Center 1700